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STANDARD FORM NO. 64

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Office Memorandum • UNITED STATES GOVERNMENT

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TO : The Files - RD-103, T. O. 8

DATE: 24 February 1959

FROM :

SUBJECT: Trip Report - AS-6 Data Transmitter

DOC 16 REV DATE 31 MAR 1980 BY 064540
ORIG COMP 033 OPI 56 TYPE 02
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JUST 22 NEXT REV 2010 AUTH: HR 10-2

1. On 22, 23 and 26 January 1959 a series of conferences regarding RD-103, Task Order 8, development of Automatic Data Transmitter, AS-6, were held at the 25X1
25X1 Participating in the conferences held on 22 and 23 January were:

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2. The representatives brought with them a model of the collector unit they are delivering to TSS. This unit was matched to the transmitter and no difficulty was encountered in interconnecting the two devices. The logic circuits of the transmitter are able to read out the memory properly and about 90% of the circuits connecting the two devices were checked out. Full agreement was reached regarding the voltage and pin connections of the remaining functions. reported that progress on the field unit was on schedule and that the base station work was only slightly behind schedule. has been notified that there is a strong possibility we will formally request them to furnish a second field unit and base station and is prepared to begin this construction as soon as it is authorized.

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3. The AS-6 transmitter will be very close to its weight limit of 30 pounds. The collector will also weigh about 30 pounds and present indications are that the power supply will weigh 30 pounds or slightly more. A lengthy discussion of the accessories necessary to properly install this equipment revealed that the 30 pound weight for the equipment did not include accessories and that the ground stakes, antenna mounting bracket, ground plane leads and the tools could conceivably weigh an additional 30 pounds. was told that every effort must be made to reduce the weight of these

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accessory kits. described the method of transport and installation of the AS-6 and impressed upon the engineers the necessity of reducing the weight of the complete system to the absolute minimum. It was pointed out that in one of the two AS-6 sites the installation would be made within a group of trees and that these trees could be used as antenna supports. At the other site a whip antenna only must be used. A percussion drill powered by rifle cartridges which is capable of driving a steel pin into solid concrete was demonstrated by recommended that a drill such as this, which weighs 8 pounds, be considered for securing guy wires and grounding stakes into permafrost.

4. The following test program for the AS-6 and collector equipment was agreed upon. During the week of 25 March 1959, and the representatives will participate in a test of the collector unit at a suitable location . The Office of Communications and will not participate in this test. During the week of 13 April 1959 the first on-the-air test of the field units will be made from Washington The collector will be used with the AS-6 field unit during this test and a full systems test will be made. During the week of 27 April 1959 a fully simulated operational installation and test will be made from This test will be made into the and will continue for about 10 days.

5. The training of an I&MB engineer in AS-6 base station operation will begin during these tests. It is anticipated that the I&MB representative will observe the Washington to test in Washington to become familiar with the operation of the field unit. He will then travel to with the engineers for instruction in operation and maintenance of the AS-6 base station. He will remain in for the duration of the tests and as long afterwards as is necessary to become thoroughly familiar with the AS-6 base equipment.

6. On 23 January a discussion was held with and regarding remote operation of the AS-6 transmit terminal. It was explained that it was highly desirable to be able to control the transmit equipment from the AS-6 receive base station, during the hours when the transmit station was unattended. explained that the frequency channel of the 231-D used at the AS-6 transmit station could be changed from a remote location by using the original dial system provided with the . He agreed to provide for remote switching of the 25 cps and 50 cps modulation on the exciter unit which is constructing for driving the .

7. On 26 January of the arrived at to discuss the power supply is fabricating for the AEC, which will be used with the AS-6. A detailed review of the power requirements was made and it was noted that the requirements

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have changed slightly, although the total energy required has not increased. said that he had been unable to provide the AEC with a firm specification for the power supply since the exact requirements had been continuously altered. It was agreed that a meeting with the representatives, who were not present on 26 January, would be arranged in order to tie down their power requirements for once and for all.

8. said that the recent wide publicity, including a White House announcement, regarding the SNAP III power supply had been of considerable help in our project, which the AEC refers to as the "SNAP V" program. He said that the fuel problem which had been serious had almost disappeared as a result of the intense cooperation he had received at all levels of the AEC. The SNAP III program is very similar to our project, except that we require a lower power level for a much longer period of time.

9. was told of the test schedule arranged on 23 January and agreed to provide a test model of his power supply for both the Washington and tests. During the Washington tests the thermoelectric generator which recharges the batteries will be powered with an electric heating element, and during the tests it will be heated with a small amount of depleted polonium. said that had still not selected batteries for use in the AS-6 power supply but he agreed to furnish part numbers to as soon as they were determined. will then purchase some batteries for use in its internal systems test.

10. reported that has incurred a $6,400.00 overrun on its subcontract for the AS-6 timer. Despite this he said the program at was still within its original cost.

11. The first AS-6 field unit is now scheduled for delivery on 1 July 1959. was told that a second unit would be required no later than 1 August 1959 and they would receive contract authorization promptly as soon as the project had been approved. The total cost of a second AS-6 is $337,000, reported. This includes $109,000 for the field unit, $212,000 for the base station, and $14,000 for spares. pointed out that if a second AS-6 unit is authorized there is a possibility that the RS-16 battery charger and antenna coupler programs at will slip.

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SUBJECT: (Optional)

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FROM: OC-E/R&D-EP

NO.

DATE: 24 February 1959

TO: (Officer designation, room number, and building)	DATE RECEIVED	DATE FORWARDED	OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
1. R&D	2/25	2/26 2-26		Information
2.				
3.				
4.				
5.				
6. OC-E	27 Feb			Information
7. E-1		27 Feb		6-7 John, if you haven't done so, you should get read in "on" vehicle 88-6 thing by 55. 7-11 at your convenience Jim
8.				
10.				Done
11. R&D-EP				Filing
12.				
13.				
14.				
15				

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